

WHAT IS CLAIMED IS:

1 *Sub A1* 1. A segment of human mitochondrial DNA or RNA of
2 between 10 and 100 bases including any one of the polymorphic
3 sites shown in Table 1, or the complement of the segment.

1 *Sub A2* 2. The segment of claim 1, wherein the polymorphic
2 form occupying the polymorphic site is listed in Table 1,
3 column 3.

1 3. The segment of claim 1, wherein the polymorphic
2 form occupying the polymorphic site is an alternative form
3 listed in Table 1, column 2, or 4-11.

1 *Sub A2* 4. An allele-specific oligonucleotide that
2 hybridizes to a segment of human mitochondrial nucleic acid or
3 its complement including a polymorphic site shown in Table 1,
4 column 1.

1 5. The allele-specific oligonucleotide of claim 10
2 that is probe.

1 *Sub B1* 6. The allele-specific oligonucleotide of claim
2 10, wherein a central position of the probe aligns with the
3 polymorphic site of the fragment.

1 7. The allele-specific oligonucleotide of claim 10
2 that is a primer.

1 *Sub C3* 8. The allele-specific oligonucleotide of claim
2 13, wherein the 3' end of the primer aligns with the
3 polymorphic site of the fragment.

1 9. An isolated nucleic acid comprising a segment
2 of the human mitochondrial sequence described by Anderson et
3 al., *Nature* 290, 457-465 (1981), or the complement thereof,
4 including a polymorphic site shown in Table 1, column 1,
5 wherein the polymorphic site within the segment is occupied by

6 a base other than the base shown in Table 1, column 3 ("asn
7 base").

1 10. A method of analyzing a nucleic acid,
2 comprising:
3 obtaining the nucleic acid from an individual; and
4 determining a base occupying any one of the polymorphic
5 sites shown in Table 1.

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